

TECHS@WORK

For Washington's IT Programming Community

Published by the Department of Information Services Winter/Spring 1998

Year 2000 conversion

*By Michael McVicker
Assistant Director
Computer Services Division*

The year 2000 conversion is on everyone's mind these days. You can no longer open any technical magazine or publication without reading a story on the challenge our society is facing in the next few years. Fortunately, the state of Washington is better positioned than most public sector organizations. We should all be proud of the strides that the state has made.

Computer Services Division has been making significant strides as well. On January 12, 1998, OS/390 Version 2.4 entered customer testing on the S/390 platform. Following a successful customer test, this release was installed into the production regions in February and March 1998. This installation will not only upgrade a number of third party products to levels certified by the vendors, but over 90 percent of total vendor products will be certified compliant.

On the Unisys platform, products that are not year 2000 compliant

are down to a very small number. DIS is working with the vendor of the last significant product to assure compliance.

Between now and July 1, 1998, DIS will schedule the upgrades of all remaining noncertified compliant products on the S/390 and Unisys environments to certified compliant levels as vendors make the products available.

During this time, contingency plans will be developed to evaluate noncompliant software products on the platforms. DIS' goal is to have fully vendor certified compliant operating environments by July 1, 1998.

However, our ability to attain this goal is contingent upon our vendors' ability to provide certified releases of software. ♦

As always, if you have any questions or suggestions, please send me e-mail at mikem@dis.wa.gov



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Washington State Department of
Information Services

Computer Services Division

New and improved MVS/QuickRef

By Judy Holm
S/390 TSO Support



MVS/QuickRef Version 5, a major revision to MVS/QuickRef, was installed on the S/390 system at the end of September 1997. It has a new database index structure made up of vendor name, product name, item name, and release number.

The old structure consisting of a two-character topic indicator and a 14-character item name was adequate for the original MVS/QuickRef product mission which was to provide storage and retrieval for a somewhat limited number of "reference topics." Because of the rapid growth and complexity of the MVS/QuickRef database, due in part to the coverage of more and more independent software vendors and their products, a new index structure was developed.

To demonstrate this change look for information about SORT. From the old version, you would go to the main menu, decide which option it might be in, select an option, get another screen to select from, and finally get to the information.

In the new version, select **R** from the main menu, type **SORT** in the item field and press enter. You can select from a list of SORT items including QuickRef Help, COBOL MVS&VM Syntax, COBOL370/VSCOBOL II, DFSORT Utility, ISPF Edit Macros, and UNIX Command Syntax.

The easiest way to find information in QuickRef is through fast-pathing. Type **QW SORT** on any command line and the list referenced above will display. You no longer have to know what *type* of information you are looking for. *You just need to know what product you are using.*

There are two options (R & L) on the QuickRef main menu that are both useful depending upon on what you are looking for:

- ☛ **Option R** - When you go through option R you will get a list of items. If you know what particular item you are looking for this option is useful.
 - ◆ Enter a particular product and a list of all items for that product will be displayed. To make the list smaller, enter a generic item key (read further for a description of generic search).
 - ◆ Enter a particular vendor and a list of all products from that vendor will be displayed. However, this list may include several hundred items which will be difficult to scroll through to find what you are looking for.

See example of QuickRef option R and option L on the next page.

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MVS/QuickRef - (Continued from page 2)

Example of QuickRef option R

```
* MVS/QuickRef 5.0 - Request Reference Information *
Command ==>

Use * for wildcard suffix.  Vendor is the only required field.

Vendor ==>   IBM                      (Vendor to be searched)
Product ==>  *                        (Product to be searched)
Release ==>  *                        (Release of product to be searched)
Item ==>     *                        (Message ID, abend code, command, etc.)

To access DIS Customer Information, type one of the following categories
in the Vendor field.

DIS GEN INFO          DIS CICS/DB          DIS TSO/ISPF
DIS STORAGE           DIS PROD SVCS        DIS UTILITIES
DIS OUTPUT SVCS

Optionally, you may limit your search to a specific database:
Data Base to Search ==> (M for MVS/QuickRef Main data base, 1-2 for User
                        data base, * or blank for all data bases)

Type HELP on the command line to access MVS/QuickRef help information.

MVS/QuickRef Copyright (C) 1989-1996, Chicago-Soft, Ltd.
```

Example of QuickRef option L

```
* MVS/QuickRef 5.0 - List Vendors/Products/Releases *
Command ==>

Vendor ==> DIS*                      (Vendor to be listed)
Product ==>                          (Product to be listed)
Release ==>                          (Release to be listed)

Example: In Vendor, type IBM to list only IBM products.
        In Product, type C* to list only products whose names start with 'C'.
        Leave all fields blank to list all vendors, products, releases.

DIS Customer Information can be found in the following Vendors

DIS GEN INFO          DIS CICS/DB          DIS TSO/ISPF
DIS STORAGE           DIS PROD SVCS        DIS UTILITIES
DIS OUTPUT SVCS

List Control ==> V (V for Vendor sequence; P for Product; O for Vendors Only)
Data Base to Search ==> (M for MVS/QuickRef Main data base, 1-2 for User
                        data base, * or blank for all data bases)

Type HELP on the command line to access MVS/QuickRef help information.

MVS/QuickRef Copyright (C) 1989-1996, Chicago-Soft, Ltd.
```

MVS/QuickRef - (Continued from page 3)

- ☞ **Option L** - Option L will list the products for a vendor or all vendors in the database.
- ◆ When you enter a vendor name, QuickRef will list all products that belong to the vendor.
- ◆ Use a generic search on products because what you call the product may not be how it is listed in QuickRef. A lot of products are suffixed with "Messages."

The DIS customer information portion of QuickRef is always evolving. We try to keep it up-to-date, but as with all documentation systems, sometimes it falls into a lower priority. If you contact the owner group (found at the end of each documentation item) and let them know you are looking at information in QuickRef, the owner group will be more likely to keep it up-to-date.

Cursor-driven Invocation

One of the most useful features of QuickRef is the cursor-driven invocation. You can use cursor-driven invocation by placing the cursor under any text string shown on any ISPF panel and pressing a PF key equated to **QWSDSF**. The indicated text string is treated as an item name and any available reference information is immediately displayed. For example, if MVS system message IEC626I appears in an IOF SYSOUT display, you can place the cursor underneath the IEC626I message ID wherever it appears on the screen and press the **QWSDSF** PF key to bring up an immediate display of the reference information available for this message.

To set a PF KEY for cursor-driven invocation of QuickRef:

1. From any command line, type **KEYS** and press enter.
2. Type **QWSDSF** by the PF KEY you want to assign. Press PF3 to exit and save.

If QuickRef cannot find the text the cursor is on, the message "QWRFM008 - No information was found matching your request" will display in the QuickRef panel.

Generic Search

Generic search is another useful feature of QuickRef. A generic search is done when a wildcard is referenced in any of the key fields. The wildcard character QuickRef uses is a single asterisk (*).

A generic key search matches any corresponding key value that starts with the same characters as those to the left of the asterisk. A generic key can also be specified as a single asterisk (*).

A key that is unspecified or specified as blanks is considered to be specified as a single asterisk and considered to match all corresponding key values.

Here are some examples of how to find specific information in QuickRef:

To see all of the DIS customer information:

1. Type **QW V=DIS*** on any command line and press enter.

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MVS/QuickRef - (Continued from page 4)

2. All of the DIS items will be listed as if you selected option R from the QuickRef main menu.

To find out information about processing a customer tape:

1. Type **QW TAPE*** on any command line and press enter.
2. Select the item from the product *DIS Tape Info*. In this case, the first item is the one that is desired.

To find information about an error message:

1. Type **QW S0C7** on any command line and press enter.
2. System abend 0C7 will display.
3. OR, to use the cursor-driven invocation, put the cursor on the error message ID, and press the QWSDSF PF key.

To find the IDCAMS commands:

1. Type **QW IDCAMS** on any command line and press enter.
2. The complete IDCAMS command reference will display.

To find an IDCAMS message:

1. Use the cursor-driven invocation. Put the cursor on the message ID in the IOF listing and press the QWSDSF PF Key.
2. The message information will display.

To find the ICETOOL reference:

1. Type **QW ICETOOL** on any command line and press enter.

2. The complete ICETOOL reference chapter from the DFSORT manual will display.

To find an ICETOOL message:

1. Use the cursor-driven invocation. Put the cursor on the message ID in the IOF listing and press the QWSDSF PF Key.
2. The message information will display.

To find DMS (dataset archive/backup) information:

1. Type **QW A_SFP.3.3.1** on any command line and press enter.
2. SAMS:Disk reference information will display. (If A_SFP.3.3.1 is too hard to remember, you can use any of the keywords on the third line of the text).

When you are finished looking at the information in QuickRef, press the RETURN key (usually PF4) to return to the screen you were viewing before you entered QuickRef.

Printing QuickRef Information

QuickRef provides a flexible printing facility that allows you to print any type of reference information shown on the MVS/QuickRef Standard Display panel. This includes the reference information shown for individual items as well as selection lists. QPRINT output processing takes care of the actual form and formatting of the output generated by the QPRINT command.

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MVS/QuickRef - (Continued from page 5)

The QPRINT Profile panel allows you to review and/or change the default values used for each QPRINT command operand.

To set up a printer, type **QP PROFILE** on the command line in an item. If you are printing to a remote printer, type the remote number (Xnnn) in the DEST field. If you are printing to a VTAM printer, type the 8-character printer ID in the WRITER field. Type SAVE and press enter to save the profile.

Two QPRINT Profile operands that will have some impact on you are HOLD/NOHOLD and FOLD/NOFOLD:

- ◆ HOLD indicates that output is to be held on the JES spool and not printed until manually or automatically released. NOHOLD indicates that output is to be printed immediately. If HOLD/NOHOLD is not set in the QPRINT Profile, then it defaults to HOLD.
- ◆ FOLD indicates that all characters in the output are to be printed in upper case. NOFOLD indicates that all characters are to be printed in the case they appear, either upper or lower. Defaults to NOFOLD.

To print an item, type **QP** on the command line within the item you wish to print and press enter. To print multiple items from an item list, type an **S** in front of each item you want to print, type **QP** on the command line, and press enter. ◆


MVS/QuickRef Manual

There is a copy of the MVS/QuickRef User's Guide in 'PROD155.QUICKREF.V5.MANUAL'. You can browse this copy of the user's guide or you can print it using the following JCL. It will print approximately 150 pages.

```
// JOB   put your job card here
//OUTPUT OUTPUT FORMDEF=A00010,
//       PAGEDEF=MIG001,CHARS=GT12
//STEP1  EXEC PGM=ICETOOL
//TOOLMSG DD SYSOUT=( , )
//DFSMSG DD SYSOUT=( , )
//IN01   DD DSN=PROD155.QUICKREF.V5.MANUAL,
//       DISP=SHR
//OUT01  DD SYSOUT=N,OUTPUT=*.OUTPUT
//TOOLIN DD *
        COPY FROM(IN01) TO(OUT01)
```

Reducing job runtimes - increasing efficiency

By Gary Duffield
S/390 Batch Support

 oing routine maintenance on 'legacy' COBOL systems presents an opportunity to improve its performance. There are some slight changes that can make a big difference in the efficiency and total runtime of the job.

This article will outline some of these simple change 'opportunities.' It is not intended to be a comprehensive discussion of all efficiency issues involved in programming for the OS/390 system.

It is hoped that this simple list will help customers obtain some substantial savings with minimal effort.

BLOCKSIZE (JCL, source program)

Use BLKSIZE=0 in your JCL. This will allow the system to choose the most efficient blocksize for the device in use. If you use DISP=MOD to later add to the file, be sure to use BLKSIZE=0 at that time, too.

NEVER OMIT the 'block contains' clause in the COBOL source. If this clause is omitted, a default value of '1' is used. This results in an unblocked dataset and an extremely time-consuming input/output process. The 'block contains' clause must be present in the program and specified as 'block contains 0.'

VSAM BUFFERING (JCL)

The input/output process for VSAM files can show an astonishing improvement in performance with proper buffering, particularly for KSDS datasets. VSAM uses two separate buffer areas, one for the

index component and another for the data component. Use BUFNI for the index and BUFND for the data. They are specified in the AMP parameter in the file's DD statement.

Here is an example:

```
AMP=('BUFNI=1','BUFND=2')
```

Note the required apostrophes. The values in this example happen to be the defaults, and are **always insufficient**.

FOR RANDOM ACCESS KSDS:

- ◆ Increase the BUFNI to gain efficiency. A 'rule of thumb' calculation is 'number of index levels + 1.' (Here's one way to find out the number of index levels: Using SPIFFY, place an 'I' next to the dataset name and search the resulting IDCAMS listing for 'levels.')
- ◆ Leave the BUFND parameter off. (The default of '1' will be sufficient for the single record you will pull from the data component each time.)

FOR SEQUENTIAL ACCESS KSDS:

- ◆ Increase the BUFNI to 2. (The default of '1' is just not efficient). Increase the BUFND to a suitably large number. (View it like a blocking factor. Multiply it by the data component CFSIZE to figure a 'blocksize.')

INDEXING (COBOL, source program)

One of the things that can invoke a lot of overhead in a COBOL program is the use of subscripting instead of indexing.

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Reducing job runtimes - (Continued from page 7)

Ideally, the use of subscripting should be replaced with indexing. Realistically, though, performance improvements can still be obtained by making slight changes in the use of subscripting.

Check the working storage definitions for any data names being used as subscripts. Make sure they are defined with a data type of COMP or BIN. Make sure the PIC clause specifies a sign and is at least four characters long.

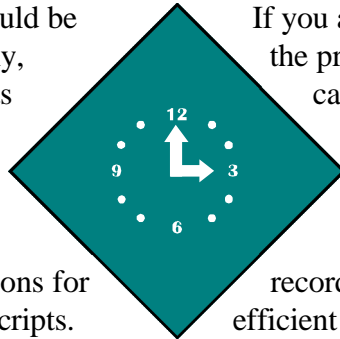
Here is an example:

```
PIC S9(4) COMP
```

COBOL COMPILE PARAMETERS

For production program compiles, make sure NOSSRANGE is specified. A value of SSRANGE includes additional overhead that checks the values of subscripts. This is useful during testing, but is undesired overhead in production.

Use OPT(FULL) to allow the compiler to use all of the 'tricks' it knows to optimize the performance of your program.



If you are invoking DFSORT from within the program, use FASTSORT. This will cause the program to use DFSORT's input/out logic, which is more efficient.

If you are creating variable length records, use AWO. This will cause more efficient blocking of the records.


These few areas should be ones that can be quickly and easily checked during normal maintenance activity. When these changes are made— especially if there are several for the same job – measurable gains in efficiency (and shorter runtimes) will be obtained.

If you are interested in pursuing a more aggressive program of application tuning, DIS has a product called STROBE that can pinpoint actual areas of inefficiency in a given program. ♦

For additional information, please contact the DIS Help Desk at 753-2454.

OS/390 Version 2.4 - so soon?

By Cliff Gott
S/390 System Support

t has only been a year since we implemented the current release of OS/390. Some of you may be wondering how IBM can deliver a new release so quickly and why we are already implementing it. The Vanilla project and repackaging of the operating system allows us to install and implement a new release in a fraction of the time it took to implement prior releases. We are staying as current as possible because of the improvements in year 2000 compliance, performance, enterprise computing, and network access.

In the past, DIS had to order all of the components that make up the operating system separately. They had to be installed and integration testing had to be accomplished. This was a very time-consuming process that, by its very nature, was error prone. IBM answered its customers' concerns by repackaging the operating system to make it easier to install. Integration testing is accomplished by IBM and a completely verified system is delivered to customers. This has reduced the time it takes to implement a new version of OS/390 from over a year to a couple of months.

The year 2000 is fast approaching and you are diligently working to get your applications compliant. This effort would be for naught if the operating system was not compliant. OS/390 is certified by the Information Technology Association of America as a year 2000 ready operating system. IBM's statement on its OS/390 operating system is that "when used in

accordance with its associated documentation, it is capable of correctly processing, providing, and/or receiving date data within and between the twentieth and twenty-first centuries, provided all other products (software, hardware, and firmware) used with the product properly exchange date data with it."

The Workload Manager (WLM) component of OS/390 provides a new improved way to ensure that our customers' service levels are met. Prior releases supplied a very cryptic method of defining performance objectives. The performance analyst spent countless hours monitoring and tweaking these objectives. Often, a small change to one objective could have dire consequences on others.

WLM provides an ISPF interface for defining performance objectives based on Customer Service Level Agreements. An exciting new feature of WLM is its ability to control initiators. Currently, someone has to notice that jobs are backing up in the input queue and start more initiators to alleviate the backup. If not noticed in time, turnaround objectives could be missed.

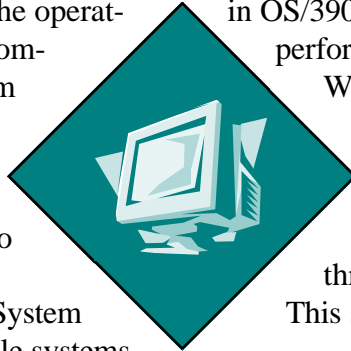
WLM can now monitor the performance objectives and start and stop additional initiators to meet those objectives. The total impact of this feature must be analyzed before it will be activated. However, you can look for it in the near future.

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OS/390 Version 2.4 - *(continued from page 9)*

IBM has made major changes to the operating system to support enterprise computing. No longer is it just a system that supports legacy applications; it is being transformed into a super server. The UNIX System Services allows UNIX programs to be ported to and executed on the mainframe. The Hierarchical File System is fully supported and traditional file systems are accessible. The Domino Go Webserver is a scalable, high-performance Webserver that includes state-of-the-art security. The Internet Connect Secure Server is now integrated into this product. DIS is currently implementing a proof of concept Web on the mainframe. This will test the capabilities of the Webserver to provide access to CICS, IMS, and DB2 data via the Intranet in addition to traditional Web functions.

TCP/IP use is increasing rapidly and the current version can honestly be called a performance hog. It gobbles up CPU cycles at a tremendous rate. The release incorporated




in OS/390 Version 2.4 greatly improves performance. According to Cheryl Watson, a highly respected expert in performance, there can be reductions in CPU consumption range from 32 percent to 65 percent, and an increase in throughput of up to 296 percent.” This should be a notable improvement.

Technology is changing at a rapid rate and DIS is committed to providing a platform that supports those changes. The citizens of the state are demanding easier access to government data. There are numerous pilots underway to provide access to mainframe data through the Internet. IBM is changing the operating system to meet these challenges. Their direction is to release a new version of OS/390 every six months. However, we have opted to upgrade on a yearly basis to ensure functions you will require will be available when you need them and still minimize the impact of new releases on our customers. ♦

Unisys storage upgrade

By Dave MacDonald
Unisys DASD Support

 Both of the Unisys 2200 series mainframes have had major upgrades to mass storage subsystems within the last year. A big accomplishment for Unisys Storage Management has been to provide our customers with high reliability by implementing **Redundant Array of Independent Disk** (RAID) technology storage subsystems.

This meant our customers for the first time ever, had 100 percent DASD availability for the entire previous year! Our customers have also experienced faster access times reducing the amount of time that some jobs run.

In a RAID-1 configuration, data on each physical disk unit is mirrored to another physical disk. If one of the disk units fails, the other unit remains available and there is no interruption in accessing data.

In a RAID-S (Data striping) configuration, three disk units contain the actual data and a fourth disk unit is added to contain parity/recovery data. This requires only 25 percent more disk space versus 100 percent in a RAID-1 configuration. If a data drive fails, the sub-system can reconstruct the data based on the parity information. If the parity drive fails the data is still available. In either failure situation, the failed unit can be physically replaced on the fly and the missing data structure is automatically reconstructed. All this occurs with no interruption to data accessibility.

Our first RAID-S implementation was on an EMC Symmetrix 5100 storage subsystem.

This subsystem has a total of 76 gigabytes of disk storage and 768 megabytes of cache.



Our latest RAID-S implementation was on an EMC Symmetrix 5330 storage subsystem. This subsystem has a total of 54 gigabytes of disk storage and 512 megabytes of cache.




5330 subsystem in foreground.

Both photos courtesy of EMC2 Corp.

By the continual improvements to its existing platforms with state-of-the-art technology, DIS strives to be the best it can be. This is just another example of DIS commitment to provide the best possible service to our customers. ♦

S/390 storage upgrade a breeze

By Valerie Williams
Storage Manager

n December 1997, the OS/390 Storage Management group used an innovative process to successfully complete an upgrade to a storage subsystem. DIS used the EMC Symmetrix Data Migration Service to upgrade the capacity of the Symmetrix subsystem and complete a project to establish 100 percent **Redundant Array of Independent Disk (RAID)** capable storage.

DIS made the technology upgrade with no disruption of service to our customers. The data migration service included a loaner subsystem and EMC personnel needed to move 362 gigabytes of disk storage, upgrade the existing Symmetrix subsystem, and move the data back to the subsystem. EMC shipped a Symmetrix 5400, all the data migration software, and the cables needed to connect this equipment to our system.

The EMC Customer Engineers (CEs) prepared for the data migration by unplugging our Symmetrix and connecting the loaner subsystem to our two CPUs (9021-982 and the CMOS 9672-R44). The loaner subsystem was set up to match the configuration of our Symmetrix of 362 gigabytes of storage, 2 gigabytes of cache, 8 concurrent I/O channels and connections to both CPUs. Next, the CEs connected our Symmetrix to the loaner subsystem. All of this activity occurred during a normal maintenance window (Monday 00:00 – 04:00). The data migration, which ran as a background task involving only the two disk controllers, was also started during the maintenance window. At 04:00 our systems were made available for normal processing while


the data migration continued. While applications such as ESD GUIDE, DSHS CAMIS, DOC OBTS and LNI Claims were active, 362 gigabytes of storage were moved. In 10 hours, all the data was moved from our Symmetrix to the loaner subsystem without any impact on our customers. Once the data migration was completed, our Symmetrix was disconnected.

The CEs then began the upgrade of our Symmetrix, removing all of the 3 gigabyte disk drive assemblies and replacing them with 9 gigabyte drives. They also added additional cache to allow us to maintain the current response time and performance levels. Our upgraded Symmetrix configuration is RAID capable and now has 805 gigabytes of storage, 2.5 gigabytes cache, 8 concurrent I/O channels and connections to both CPUs. During the following maintenance window, the loaner subsystem was unplugged from our CPUs and our Symmetrix was re-connected to our CPUs. The loaner subsystem was connected to our Symmetrix and the data migration back to our hardware was started. Approximately 11 hours later, all data had been moved back to our Symmetrix. This migration took a little longer because the newly upgraded Symmetrix was RAID capable and additional data verification was required. The last activity was to remove the loaner equipment.

The entire upgrade and data migration process was completed in less than 14 days. If Storage Management personnel had performed this process in the traditional way, it would have taken 6-8 weeks and required 4-6 maintenance windows to accomplish. DIS now has 1.9 terabytes of RAID capable storage on the S/390 platform. ♦

Reliable support for your computing needs

By Lance Calisch
Unisys/FM Manager

 IS Facilities Management (FM) takes care of your computer so you don't have to. You own the computer, you decide when and how it's available, and FM provides the support. FM is in the business of managed care of your technology needs.

FM provides a wide variety of services that can be tailored to your needs:

- ◆ Flexibility to support your equipment your way – at your site or at DIS
- ◆ Expertise in a variety of operating systems:
 - UNIX – AIX, Solaris, or HP/UX
 - NT
 - HP/MPE
 - Tandem Guardian
- ◆ Expertise in a variety of software products:
 - SQL/Server
 - IIS
 - Sybase
 - Oracle
 - Netscape Enterprise Server
- ◆ Cross-trained professional staff
- ◆ 24 hour service

FM provides support in technical, operations, facilities, and server backup and restore services:

Technical Support:

- ◆ Operating system software installation

- ◆ System software maintenance and upgrades
- ◆ System administration
- ◆ Database administration
- ◆ Security
- ◆ Storage management
- ◆ Network management
- ◆ Troubleshooting and system recovery
- ◆ Performance tuning
- ◆ Vendor liaison

Operations Support:

- ◆ Support 24 hours a day, 7 days a week, 365 days per year
- ◆ System monitoring and process verification
- ◆ Job processing
- ◆ Tape library management and offsite storage
- ◆ Printing and distribution of output
- ◆ Vendor and customer problem notification and callback
- ◆ Professionally developed maintenance and operations procedures

Facilities Services:

- ◆ Uninterruptable power supply
 - Battery and generator backup
 - Power conditioning preventing power fluctuations and abnormalities
- ◆ Raised floor with ample cooling capacity
- ◆ Fire detection and suppression

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Reliable support - (Continued from page 13)

- ◆ Physically secure areas with guarded access
- ◆ Racking systems for rack mounted servers


Server Backup and Restore:

FM offers secure, 7X24, unattended, backup and restore services of your server at your site! Using IBM's ADSTAR Distributed Storage Manager (ADSM) over the TCP/IP network almost any server can be backed up and secured by DIS/FM. Approximately 30

different servers are supported including those based on UNIX (IBM AIX, DEC, HP/UX, SUN Solaris) and Microsoft (DOS, Windows/NT, Windows 3.1, Windows/95) operating systems. All parameters are customer driven and controlled. The customer decides when and how often the backups will occur. Securely located in the DIS Data Center, the Server Backup and Restore Service allows customers to backup and recover data 24 hours a day, 7 days a week, 365 days a year. ◆

What's happening in OB2

By Tuck Wilson
Facility Services Manager

 As most people on the campus know, phase one of the plaza upgrade was completed last spring. That project put a new plaza around the south end of OB2. Phase two which is to do the north end plaza of OB2 was to start in April 1998, but has been put on hold until the 1999/2000 biennium because OB2 will be undergoing a facelift.

The overall plan includes two new towers; one will be on the west side, the other on the east side. The towers will create entrances to OB2 from the campus plaza on the west, and from Jefferson street on the east.

The internal plans include:

- ◆ adding three elevators in front of the OB2 auditorium

- ◆ removing escalators and building a new atrium stairwell
- ◆ opening the restrooms toward the atrium
- ◆ installing new carpet


Phase one of the project will put in the new elevators and rebuild the freight elevator. The existing stairs in front of the auditorium will be removed and a lobby will be built. The carpet for the core areas of OB2 will also be replaced.

This construction is scheduled to start in September 1998 and be completed by July 1999. The construction plans for the next phases will be drawn while phase one of construction is in progress. The total project should be completed by the end of the 2003/2004 biennium. ◆

I will keep you updated as the various phases of construction begin. If you have any questions, please call me at 902-3290.

Routing computer output

By Linda Jackson
Production Services

epartment of Information Services (DIS) strives to ensure that customers receive their output runs in a timely and efficient manner. In addition, DIS is very conscious of providing a secure area to customers as well as providing a secure storage for their output.

Customers should be aware of the following procedures in order to receive the best service:

◆ Output print, microfiche and forms

Production Services operators remove printed output from the printer and sort it by bin numbers. Volumes can range from 10 to 100 boxes of output everyday. Sorted output is then placed in the bin or campus mail.

To ensure faster and more accurate delivery of your output, make sure it is addressed with the correct routing information. This information is found on the banner page. It has your bin number, mail stop, userid, name, address, etc. To avoid confusion and delay, if you want to pick up your output at OB2, specify what

bin number it should go in. If you want your output to be routed by campus mail, specify your campus mail stop.

◆ Output bin security

We have 49 bins at DIS that should remain locked for security reasons. Much of the output that is placed in bins contains sensitive data that must remain secured. DIS monitors the bins regularly to ensure that they are locked. Combinations to these bins are given to the bin contact person for each agency.

◆ Output data, tapes, and warrants

This output will be released to customers who are authorized to have access to a particular bin. Others who are not authorized can obtain access to the bin by providing to DIS a copy of their driver's license or other picture ID, along with the bin number and authorization from the bin contact person. ◆

*If you have any questions, please call
Linda Jackson at 902-3171.*

TECHS@WORK

Techs@Work is published quarterly by DIS Computer Services Division to provide a forum for customer information-sharing of upcoming system enhancements and optimization tips. We invite your articles, comments and suggestions.

CSD Assistant Director

Michael McVicker

Contributing Authors

Cliff Gott
Judy Holm
Tuck Wilson
Gary Duffield
Lance Calisch
Linda Jackson
Valerie Williams
Dave MacDonald

Editor

Charie L. Martin

This publication is available in alternate format. For requests, please call Charie Martin at (360) 902-3112 or send e-mail to chariem@dis.wa.gov

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1 (360) 902-3112



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*Washington State Department of
Information Services*

Computer Services Division
PO Box 42445
Olympia, WA 98504-2445